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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/222,846 12/30/98 OISHI

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NEW YORK NY 10112

EXAMINER

NEWTON, G

ART UNIT

PAPER NUMBER

2132

8

DATE MAILED:

11/07/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/222,846

Applicant(s)

OISHI, KAZUOMI

Examiner

Gregory A Newton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/30/98.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,6,7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 10-12, 14, are rejected under 35 U.S.C. 102(b) as being anticipated by Shibata et al (US 5,535,277).

Claim 1 recites an image input apparatus with encryption. However, limitations in claim 1 are disclosed in patent reference of record by Shibata et al.

For disclosure of conversion of an image signal into digital information, see e.g. ABSTRACT, and see figure 1, where the scanner section item 2 sends signal into the data processing circuit item 404. For disclosure of encryption of the digitized signal, see e.g. ABSTRACT, or figure 1 item 403. For key erasure means, see column 4, line 51, and column 7, lines 42-43.

Claim 2 recites an apparatus in accordance with claim 1 with further limitations. For illustration of encoding operation prior to encryption, see Shibata et al figure 5, items S12-S13.

Claim 3 recites an apparatus in accordance with claim 1 with further limitations. For disclosure of picking up and generating optical image, see **Shibata et al** e.g. column 4, lines 29-30.

Claims 10-12, are method claims corresponding to apparatus claims 1- 3 respectively, and are rejected in view of the same prior art of record and in accordance with the same rationale.

Claim 14 is a computer readable medium claim corresponding to apparatus claim 1, and is rejected in view of the same prior art of record and in accordance with the same rationale.

3. **Claims 18-19, 20-22**, are rejected under 35 U.S.C. **102(b)** as being anticipated by **Shigemitsu et al** (US 5,253,293).

Claim 18 recites an image input apparatus. For such limitations, see patent reference of note by **Shigemitsu et al**. For disclosure of image input device, see e.g. column 1, lines 14-15. Disclosure that the image is transferred by digital data means may be found e.g. in the ABSTRACT. For disclosure of a key within the device for data encryption, see column 5, lines 50-52. For disclosure of means for inputting a key from an external source, see column 4, lines 31-33. For disclosure that this input key encrypts the data encrypting key within the device, see column 5, lines 54-55.

Claim 19 recites an apparatus in accordance with claim 18 having further limitations. Disclosures that the internal key of claim 18 is a common key (symmetric

key, or same at sender and receiver), is found in **Shigemitsu et al**, column 5, line 47, where the letter R refers to the receiving entity and T refers to the transmitting entity. For disclosure that the externally input encryption key is based on a public key cryptosystem, see column 5, fourth paragraph.

Claims 20-22 recite: a *method* claim, a *recording medium* claim, and *stored program* claim, respectively, with the same limitations as the key encrypting key (key layering) *apparatus* claim which is recited in claim 18. It is therefore rejected in view of the same prior art of record and in accordance with the same rationale.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-9, 13,15,16-17, are rejected under 35 U.S.C. 103(a) as being unpatentable over **Virga et al** in view of **official notice**.

Claims 4 and 5 recite an image encryption apparatus in accordance with claim 1 with further limitations. Limitations in claims 1 and 4 are found in patent reference of an encryption device by **Virga**. Optical image pickup, encoding, and encryption, are

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illustrated in figure 10. Disclosure of key input from an external device is found in column 1, lines 67-68, and see also figure 10 step 110a. Virga is silent with respect to erasure of keys (claim 1), and generation of ephemeral keys within the smart card (claim 5). However, examiner takes **official notice** that smart cards with key volatility, i.e., internal generation (claim 5) of ephemeral keys, have been well known in the art for some time. For example, the examiner owns a cryptocard for initializing actions, and which internally generates ephemeral keys lasting for certain periods of time before erasure or deletion.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Virga (concerning use of a smart card to initiate encryption), with a smart card which generates ephemeral keys. One of ordinary skill in the art would have been motivated to do this because it is well known that ephemeral keys are more secure because they cannot be reused.

Claim 6 recites an apparatus in accordance with claim 1 comprising further limitations. Common keying is defined in the application specification page 13 as symmetric keying, where encryption keys and decryption keys are identical. Such disclosures are found in Virga, column 9, lines 45-50.

Claim 7 recites an apparatus in accordance with claim 1 comprising further limitations. For disclosure of encryption key based on public key cryptosystem, see Virga e.g. column 9, lines 38-40.

Claims 8 and 9 recite an apparatus in accordance with claims 1 and 8 respectively, comprising further limitations. The examiner takes **official notice** that key

layering, or *key encrypting keys*, have been well known in the art for some time (see Shigemitsu reference of note). Motivation for using key layering in Virga's device may be found in column 9, lines 40-55, where it is discussed that specific encryption embodiments are plentifully available to those skilled in the art.

Concerning protocols using a public key and a symmetric (common) key, such teachings can actually be found in the Virga reference of note. Common keying is defined in the application specification as symmetric keys which are the same for encryption and decryption. For such disclosures, see column 9 of Virga, lines 19-21. For implicit reference to a public key being used with key layering with the symmetric key mentioned in lines 19-21, see column 9, lines 39, and lines 11-18. Official notice is further taken that; it is often the case in cryptography that the random number generator generates the symmetric keys, but are initially pre-keyed (seeded) by public key protocols. Motivation for implementing such protocols are concerned with data processing speed.

Claim 13 is a method claim corresponding to apparatus claims 6 and 7, and are rejected in view of the same prior art of record and in accordance with the same rationale.

Claim 15 recites limitations of an image input apparatus with conversion to digital data. Refer to Virga reference of note e.g. ABSTRACT for such limitations. For disclosure of inputting an encryption key from an external source, see column 1, lines 67-68, and figure 10 item 110a. For illustration of encryption of information using key, see e.g. figure 10 items 100-104, and 104a.

Claims 16 and 17 are method and computer readable medium claims respectively, corresponding to apparatus claim 15, and are rejected in view of the same prior art of record and in accordance with the same rationale.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. ***.

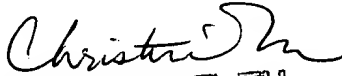
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory A Newton whose telephone number is 703-305-1373. The examiner can normally be reached on 9-6 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on 703-305-9595. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

gn

gn
October 26, 2001


CHRISTINE T. TU
Primary Examiner

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a)

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.